CLAIMS

[c1] 1. A method for identifying topology of a network, the network including a plurality of switches, each switch having ports, each port of a switch either being connected to another port or not connected to another port, the method comprising:

under control of each switch, determining whether each port of the switch is connected to a connected-to port; and

under control of a network manager,

for each of the switches,

retrieving an indication of which of the ports of the switch are connected to a connected-to port; and

for each port that is connect to a connected-to port,

sending a query message through that port to the connected-to port; and

receiving a response from the connected-to port identifying the connected-to device and connected-to port

wherein mappings from each switch and port to its connect-to device and connected-to port indicates the topology of the network.

[c2] 2. The method of claim 1 wherein processing of the network manager is distributed to the switches.

[c3] 3. The method of claim 1 wherein the query message is sent via out-of-band communications.

[c4] 4. The method of claim 1 wherein the sending of the connect-to query message is sent via in-band communications of the network.

[c5] 5. The method of claim 4 wherein the network manager identifies switches of the network via the received responses.

[c6] 6. The method of claim 5 wherein when a switch is identified, the network manager performs the retrieving of the indications of which of the ports of the switch are connected to a connected-to port.

[c7] 7. The method of claim 1 wherein the connected-to device is a node.

[c8] 8. The method of claim 1 wherein the connected-to device is a switch.

[c9] 9. A method for identifying topology of a network, the network including a plurality of routing devices, each routing device having ports, the method comprising:

retrieving an indication of which of the ports of the routing devices are connected to another port;

for each port that is connect to another port,

sending a query message through that port to the other port; and

receiving a response from the other port identifying the other device and the other port.

[c10] 10. The method of claim 9 including generating a mapping from each routing device and port to device and port to which it is connected to indicate the topology of the network.

[c11] 11. The method of claim 9 wherein a routing device is a switch.

[c12] 12. The method of claim 9 wherein a routing device is an interconnect fabric module.

[c13] 13. The method of claim 9 wherein the routing devices use virtual addresses to route frames.

[c14] 14. The method of claim 9 wherein the identification of the topology is performed by a network manager.

[c15] 15. The method of claim 14 wherein the network manager is distributed to the routing devices.

[c16] 16. The method of claim 9 wherein the query message is sent via out-of-band communications.

[c17] 17. The method of claim 9 wherein the query message is sent via in-band communications.

[c18] 18. The method of claim 9 wherein the routing devices of the network are identified via the received responses.

[c19] 19. The method of claim 18 wherein when a routing device is identified, retrieving an indication of which of the ports of the routing device are connected to another port.

[c20] 20. The method of claim 9 wherein the retrieving of an indication of which of the ports of the routing devices are connected to another port includes sending a request to the routing device.

[c21] 21. The method of claim 9 wherein the retrieving of an indication of which ports of the routing devices are connected to another port includes receiving a message from the routing device.

[c22] 22. The method of claim 9 wherein each routing device determines which of its ports are connected to another port and the retrieving of an indication of which of the ports of the routing devices are connected to another port includes transmitting the determined information to a network manager.

[c23] 23. A network manager for identifying topology of a network, the network including a plurality of routing devices, each routing device having ports, comprising:

a component that retrieves indications of which of the ports of the routing devices are connected to another port; and

a component that sends a query message through each port that is indicated as connected to another port to the other port and that receives a response from the other port identifying the other device and the other port.

[c24] 24. The network manager of claim 23 including a component that generates a mapping from each routing device and port to the device and port to which it is connected to indicate the topology of the network.

[c25] 25. The network manager of claim 23 wherein a routing device is a switch.

[c26] 26. The network manager of claim 23 wherein a routing device is an interconnect fabric module.

[c27] 27. The network manager of claim 23 wherein the routing devices use virtual addresses to route messages.

[c28] 28. The network manager of claim 27 including a component that configures each routing device with routing data for virtual addresses.

[c29] 29. The network manager of claim 28 wherein each frame of data identifies a destination virtual address.

[c30] 30. The network manager of claim 23 wherein the query message is sent via out-of-band communications.

[c31] 31. The network manager of claim 23 wherein the query message is sent via in-band communications.

[c32] 32. The network manager of claim 23 wherein the routing devices of the network are identified via the received responses.

[c33] 33. The network manager of claim 32 wherein the component that retrieves an indication of which of the ports of the routing device are connected to a another port retrieves the indication when a routing device is identified.

[c34] 34. The network manager of claim 33 wherein the component that retrieves an indication sends a request to a routing device.

[c35] 35. The network manager of claim 23 wherein the component that retrieves an indication of which ports of the routing devices are connected to another port includes receiving a message from the routing device.

[c36] 36. The network manager of claim 23 wherein each routing device determines which of its ports are connected to other ports and the retrieving of an indication of which of the ports of the routing devices are connected to another port includes receiving the determinations from the routing devices.

[c37] 37. A network manager for identifying topology of a network, the network including a plurality of routing devices, each routing device having ports, comprising:

means for retrieving indications of which of the ports of the routing devices are connected to another port; and

means for sending a query message through each port that is indicated as connected to another port to the other port and that receives a response from the other port identifying the other port.

[c38] 38. The network manager of claim 37 including a component that generates a mapping from each port to its connected-to port to indicate the topology of the network.

[c39] 39. The network manager of claim 37 wherein a routing device is a switch.

[c40] 40. The network manager of claim 37 wherein a routing device is an interconnect fabric module.

[c41] 41. The network manager of claim 37 wherein the routing devices use virtual addresses to route messages.